

ABSTRACT

In an application in which context switching often occurs
5 such as in a real time OS, it is possible to significantly
reduce the overhead caused by the context switching. The OS
issues a Swap instruction and a context switch starts. The
Swap instruction is issued together with a thread (i.e.,
context) ID to be replaced, to a thread control unit (9).
10 The thread ID is used to uniquely identify threads stored in
a context cache (8). The thread control unit (9) saves data
from a register file (1) to the context cache (8) via a
context-dedicated bus (12) and transmits data of a new
thread from the context cache (8) to the register file (1).
15 According to the thread ID received, the thread control unit
(9) automatically interchanges the necessary number of data
in the register file (1) and the data in the context cache
(8).